NEW MODULE NEWS
DEC Maynard
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Supercedes
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REVISION

# 6303 AND 6304
# DELAY (ONE SHOT)

Catalog Item
(C-100, Pg.8.10)
6303: $262.00
6304: $117.00

A delay (one shot) is a mono-stable multivibrator. When the input terminal is grounded, either through the inverter or externally, the level output will switch from its normal ground level to -3V for a predetermined, but adjustable period of time then back to ground. Simultaneously with the final transition, a DEC Standard 40 nanosec pulse is generated at the pulse output.

Each delay in the Type 6303 has an individual potentiometer for adjusting the level delay duration from 50 nanosecs to about 700 nanosecs. Each circuit also has a pair of lugs where an additional capacitor may be inserted if a longer duration is desired; if the minimum delay is raised to a few hundred nanosecs or more by this means, the ratio of maximum to minimum delay will be approximately 20:1.

The Type 6304 contains 3 capacitors for delay range selection and a potentiometer for fine adjustment. Capacitor 1 permits adjustment from 50 nanosecs to approximately 700 nanosecs; Capacitor 2, from approximately 0.5 to 10 microsecs; and Capacitor 3 from approximately 7 to 150 microsecs using pins L, N, and M respectively. To increase the range further, an external capacitor may be connected between pins L and K. The fine control is adjusted with the internal potentiometer when pins U and T are jumpered together. For external control, a 5000 ohm rheostat can be connected between pins S and T.

For both modules, the circuit recovery time is equal to approximately 10% of the maximum delay available with that particular circuit's capacitor connection. This limits the max. input frequency at any one shot input to 6.5 megacycles. Delay from input pulse to the start of the level output is approximately 30 nanosecs. A 20% change in power supply voltage will change the delay typically 1%. Delay jitter (due to power supply ripple) is less than 0.3%. If an external capacitor is used to set the delay range, provide one nanofarad for each 3 microseconds of maximum delay desired.

INPUT: The input to the delay is a DEC Standard 40 nanosec negative pulse on the base of a pulse gate, such as the one included in the delay module. The base of the built-in pulse gate represents 1 unit of pulse load. If more logical inputs are desired, they can be provided by connecting pulse gate collectors to the collector of the built-in pulse gate.

OUTPUT: Level- When the input is pulsed, a neg. DEC Standard Level occurs for the duration of the delay interval. This level is capable of simultaneously driving: (a) 6 units of Base Load if speed is important, otherwise 14 bases; (b) 1 unit of DC Emitter Load; and (c) any number of Pulsed Emitter Loads, providing not more than one is pulsed at a time.
Pulse- At the end of the delay interval, a DEC Standard 40 nanosecond pulse occurs. The output pulse will be negative if the positive terminal is grounded. This signal can drive 8 units of Pulse Load.

POWER: 6303: -15V/330 ma; +10V(A)/6 ma; +10V(B)/0 ma.
6304: -15V/110 ma; +10V(A)/2 ma; +10V(B)/0 ma.

LOGIC DIAGRAM: No change. See Page 8.10 in Catalog C-100.